AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, or claims in the application.

Listing of Claims:

Claim 1 (Previously Presented). A chimeric ebola envelope protein comprising a functional ebola glycoprotein binding domain fused to a heterologous amino acid sequence, wherein said chimeric protein comprises a functional deletion in an ebola envelope protein between a signal peptide and a cytoplasmic domain.

Claim 2 (Original). The chimeric ebola envelope protein according to claim 1, wherein said protein contains a wild-type ebola glycoprotein binding domain.

Claim 3 (Original). The chimeric ebola envelope protein according to claim 1, wherein said heterologous amino acid sequence is an ebola glycoprotein sequence which is non-contiguous with the binding domain in the wild-type ebola.

Claim 4 (Original). The chimeric ebola envelope protein according to claim 1, wherein said chimeric protein comprises an ebola signal peptide and an ebola binding domain having a deletion in the native ebola region between the signal peptide and the binding domain.

Claim 5 (Original). The chimeric ebola envelope protein according to claim 4, wherein said chimeric protein comprises a deletion of about 1 to 50 amino acids between the signal peptide and the binding domain.

Claim 6 - 16 (Canceled).

Claim 17 (Previously Presented). The chimeric ebola envelope protein according to claim 1, selected from the group consisting of:

(a) NTDL1, amino acids 1 to 366 fused to amino acids 497 to 676 of the ebola glycoprotein, SEQ ID NO:1;

(b) NTDL2, amino acids 1 to 366 fused to amino acids 502 to 676 of the ebola glycoprotein. SEQ ID NO:1;

(c) NTDL3, amino acids 1 to 370 fused to amino acids 492 to 676 of the ebola glycoprotein, SEQ ID NO:1;

(d) NTDL4, amino acids 1 to 311 fused to amino acids 497 to 676 of the ebola glycoprotein, SEQ ID NO:1;

(e) NTLD5, amino acids 1 to 287 fused to amino acids 497 to 676 of the ebola glycoprotein, SEQ ID NO:1;

(f) NTDL6, amino acids 1 to 279 fused to amino acids 497 to 676 of the ebola glycoprotein, SEQ ID NO:1;

(g) NTDL7, amino acids 1 to 267 fused to amino acids 497 to 676 of the ebola glycoprotein, SEQ ID NO:1;

(h) NTDL8, amino acids 1 to 258 fused to amino acids 497 to 676 of the ebola glycoprotein, SEQ ID NO:1;

(i) NTDL9, amino acids 1 to 232 fused to amino acids 497 to 676 of the ebola glycoprotein, SEQ ID NO:1;

(j) NTDL11, amino acids 1 to 231 fused to amino acids 497 to 676 of the ebola glycoprotein, SEQ ID NO:1;

(k) ΔN, amino acids 1 to 31 fused to 172 to 676 of the ebola glycoprotein, SEQ ID NO:1;

(l) EboΔ5S, amino acids 1 to 220 of the ebola glycoprotein, SEQ ID NO:2;

(m) EboΔ6S, amino acids 1 to 361 of the ebola glycoprotein, SEQ ID NO:2;

(n) EboΔ7S, amino acids 1 to 628 of the ebola glycoprotein, SEQ ID NO:2; and

(o) EboΔ8S, amino acids 1 to 311 fused to amino acids 497 to 664 of the ebola glycoprotein, SEQ ID NO:2;

(p) V/TC, amino acids 1 to 672 of SEQ ID NO:1 fused to amino acids 463 to 511 of SEQ ID NO:3;

(q) –2aa, amino acids 1 to 672 of SEQ ID NO:1 fused to amino acids 465 to 511 of SEQ ID NO:3;

(r) +2aa, amino acids 1 to 672 of SEQ ID NO:1 fused to amino acids 461 to 511 of SEQ ID NO:3;

(s) +16aa, amino acids 1 to 672 of SEQ ID NO:1 fused amino acids 447 to 511 of SEQ ID NO:3;

(t) +23aa, amino acids 1 to 672 of SEQ ID NO:1 fused to amino acids 440 to 511 of SEQ ID NO:3;

(u) +42aa, amino acids 1 to 672 of SEQ ID NO:1 fused to amino acids 421 to 511 of SEQ ID NO:3;

(v) V/C, amino acids 1 to 672 of SEQ ID NO:1 fused to amino acids 483 to 511 of SEQ ID NO:3;

(w) V/T, amino acids 1 to 650 of SEQ ID NO:1 fused to amino acids 463 to 482 of SEQ ID NO:3;

(x) ΔInt, amino acids 1 to 629 of SEQ ID NO:1 fused to amino acids sequences 463 to 511 of SEQ ID NO:3;

(y) ΔImm, amino acids 1 to 563 of SEQ ID NO:1 fused to amino acids 463 to 511 of SEQ ID NO:3;

(z) VE, amino acids 180 to 350 of SEQ ID NO:1 in the VSV-G envelope, SEQ ID NO:3.

(aa) H/TC, amino acids 1 to 650 of SEQ ID NO:1 fused to amino acids 661 to 856, SEQ ID NO:8;

(ab) M/C, amino acids 1 to 650 of SEQ ID NO:1 fused to a VSV-G transmembrane domain, 465 to 482 of SEQ ID NO:3, and an MLV-GP cytoplasmic domain, amino acids 634 to 649 of SEQ ID NO:6;

(ac) M/CR, amino acids 1 to 650 of SEQ ID NO:1 fused to a VSV-G transmembrane domain, 465 to 482 of SEQ ID NO:3, an MLV-GP cytoplasmic domain, amino acids 634 to 649 of SEQ ID NO:6, and an R peptide of MLV-GP, amino acids 650 to 665 of MLV-GP, SEQ ID NO:6;

(ad) L/TC, amino acids 1 to 650 of SEQ ID NO:1, fused to amino acids 439 to 498 of LCMV-GP, SEQ ID NO:9.

Claims 18 - 48 (Canceled).

Claim 49 (Previously Presented). The chimeric ebola envelope protein according to claim 1, wherein said chimeric comprises a deletion of the complete ebola signal peptide or a portion thereof.

Claim 50 (Previously Presented). The chimeric ebola envelope protein according to claim 1, wherein said deletion of all or a portion of the carboxy terminus of the signal peptide comprises a deletion of from about 1 to 30 amino acids.

Claim 51 (Previously Presented). The chimeric ebola envelope protein according to claim 1, wherein said chimeric ebola envelope comprises a deletion of all or a portion of the ebola transmembrane.

Claim 52 (Previously Presented). The chimeric ebola envelope protein according to claim 51, wherein the deletion of the ebola transmembrane comprises deletion of about 1 to 23 amino acids.

Claim 53 (Previously Presented). The chimeric ebola envelope protein according to claim 1, wherein said chimeric ebola envelope comprises a deletion of all or a portion of the ebola cytoplasmic domain.

Claim 54 (Previously Presented). The chimeric ebola envelope protein according to claim 53, wherein the deletion of the ebola cytoplasmic domain comprises about 1 to 3 amino acids.

Claim 55 (Previously Presented). The chimeric ebola envelope protein according to claim 1, wherein said chimeric ebola envelope comprises a transmembrane domain.

Claim 56 (Previously Presented). The chimeric ebola envelope protein according to claim 55, wherein the transmembrane domain is from a heterologous protein.

Claim 57 (Previously Presented). The chimeric ebola envelope protein according to claim 1, wherein said protein further comprises a cytoplasmic domain.

Claim 58 (Previously Presented). The chimeric ebola envelope protein according to claim 1, wherein said heterologous amino acid sequence is from a non-ebola protein.

Claim 59 (Previously Presented). The chimeric ebola envelope protein according to claim 58, wherein the heterologous amino acid sequence is selected from the group consisting of a Vesicular Stomatitis Virus protein; a human immunodeficiency virus transmembrane domain; a murine leukemia virus; and a Lymphocytic Choriomeningitis virus.

Claim 60 (Previously Presented). A nucleic acid molecule encoding a chimeric ebola protein according to claim 1.

Claim 61 (Previously Presented). The molecule according to claim 60, wherein said molecule is a plasmid.

Claim 62 (Previously Presented). The molecule according to claim 60, wherein said molecule is a viral vector.

Claim 63 (Previously Presented). The molecule according to claim 60, wherein said molecule is an adenoviral vector.

Claim 64 (Previously Presented). A host cell comprising a protein according to claim 1.

Claim 65 (Previously Presented). A host cell comprising a molecule according to claim 60.

Claim 66 (Previously Presented). A method of inducing an immune response against ebola comprising the step of delivering to a subject a composition comprising a protein according to claim 1.

Claim 67 (Previously Presented). The method according to claim 66, wherein said composition is delivered intramuscularly.

Claim 68 (Previously Presented). The method according to claim 66, wherein said composition is delivered orally.

Claim 69 (Previously Presented). A method of inducing an immune response against ebola comprising the step of delivering to a subject a composition comprising a molecule according to claim 60.

Claim 70 (Previously Presented). A method according to claim 69, wherein said composition is delivered intramuscularly.

Claim 71 (Previously Presented). The method according to claim 69, wherein said composition is delivered orally.

Claim 72 (Previously Presented). A recombinant virus having a chimeric ebola envelope protein according to claim 1 and a minigene.

Claim 73 (Previously Presented). The recombinant virus according to claim 72, wherein said minigene is a lentivirus minigene comprising Rev response element (RRE) sequences.

Claim 74 (Previously Presented). The recombinant virus according to claim 72, wherein said lentivirus sequences are selected from the group consisting of a human immunodeficiency virus (HIV) vector, simian immunodeficiency virus (SIV) vector, caprine arthritis and encephalitis virus, equine infectious anemia virus, visna virus, and feline immunodeficiency virus (FIV) vector.

Claim 75 (Previously Presented). The recombinant virus according to claim 74, wherein said lentivirus is an HIV.

Claim 76 (Previously Presented). The recombinant virus according to claim 74, wherein said 5' LTR sequences are self-inactivating.

Claim 77 (Previously Presented). The recombinant virus according to claim 76, wherein said 5' LTR sequences contain a deletion in the U3 region.

Claim 78 (Previously Presented). The recombinant virus according to claim 74, wherein said 3' LTR sequences are self-inactivating.

Claim 79 (Previously Presented). The recombinant virus according to claim 78, wherein said 3' LTR sequences contain a deletion in the U3 region.

Claim 80 (Previously Presented). A host cell containing a recombinant virus according to claim 72.

Claim 81 (Previously Presented). A method of treating a patient with a selected molecule, said method comprising the step of transducing the cells of the patient with the recombinant virus according to claim 72.

Claim 82 (Previously Presented). The method according to claim 81, wherein the cells are selected from among the lung cells, dendritic cells and macrophages.

Claim 83 (Previously Presented). The method according to claim 81, wherein said recombinant virus is administered directly to the patient.

Claim 84 (Previously Presented). The method according to claim 82, wherein the transgene is a CFTR gene and said recombinant virus is administered intratracheally.

Claim 85 (Previously Presented). The method according to claim 81, wherein the cells of the patient are transduced ex vivo, further comprising the step of re-infusing the transduced cells into the patient.

Claim 86 (Previously Presented). The method according to claim 85, wherein the patient is a cancer patient.

Claim 87 (Previously Presented). The method according to claim 85, wherein the transduced cells are dendritic cells.

Claim 88 (Previously Presented). The method according to claim 85, wherein the transduced cells are macrophages.

Claim 89 (Previously Presented). A method of delivering a molecule to the apical cells of the lung, said method comprising the step of administering a recombinant virus according to any of claims 72 intratracheally.

Claim 90 (Previously Presented). An immunogenic composition comprising a DNA molecule encoding a chimeric ebola envelope protein according to claim 1 under the control of sequences which direct expression thereof in a host cell and a carrier.

Claim 91 (Previously Presented). The immunogenic composition according to claim 90 comprising a recombinant virus comprising the DNA molecule.

Claim 92 (Previously Presented). An immunogenic composition comprising an ebola envelope protein and a carrier, wherein said composition comprises an ebola envelope protein according to claim 1.

Claim 93 (Previously Presented). The immunogenic composition according to claim 92, wherein the immunogenic composition further comprises a wild-type ebola G or S protein.